

## **REMARKS/ARGUMENTS**

Applicant responds herein to the Office Action dated October 17, 2003.

Claims 17, 19-21 and 23-24 stand rejected on grounds of obviousness over Akimoto (5,942,013), in view of Ogata (6,313,903). Claims 18 and 22 stand rejected on grounds of obviousness over Akimoto and Ogata, further in view of Sato, et al. (5,766,360). Claims 25 and 27-28 are stated to be obvious over Akimoto and Ogata, further in view of Kimura, et al. (6,439,822). Finally, claim 26 is said to be obvious over Akimoto, Ogata and Kimura, further in view of Sato, et al. (5,766,360). Reconsideration is requested in view of the amendments to the claims herein and the following remarks.

As amended, the present invention is characterized and limited to a transfer robot of an indexer that has a telescopic multistage structure on which a transfer arm is provided. (Parenthetically, the applicant's intention is that the Examiner accord no weight to these remarks and only consider the strict language of the claims.) When the telescopic multistage structure expands or contracts, the transfer robot is able to access or reach a carrier of the substrate, as well as an inspection section provided in an upside section of the indexer.

It is respectfully submitted that the inclusion of the aforementioned/summarized feature in the instant claims distinguishes them over all prior art apparatus.

The benefits of the invention can be appreciated from, among other things, the following remarks. Because the inspection section is provided at a high position in the indexer, the transfer robot needs to have a large stroke in its direction of extension. When the conventional robot (for example, the robot shown in Akimoto's figures 6-9), which has a transfer arm provided over a long column, raises or lowers the arm to make it move up and down, and such a robot is used as the transfer robot of the indexer, that column has to be long enough to reach the height of the inspection section. This requires sufficient vacant space in the lower part of the indexer, in order to accommodate such a long column.

Attempting to utilize another conventional robot (for example, the robot 22 shown in Ogata's figure 4), which makes the transfer arm move up and down along a long guide which does not move up and down, the need to accommodate such a long guide and move it with the indexer, causes interference with other elements in the indexer.

Utilizing another conventional transfer robot, of the type having a pantograph structure, dispenses with the need for a long guide. However, contraction of the pantograph structure causes a big overhang in a horizontal direction, similar to a human elbow being spread out, resulting in the need to widen

horizontal dimension of the transfer robot. Such a big overhang in the horizontal direction causes interference with other elements in a typically small indexer.

The present invention overcomes the aforementioned and other drawbacks of the prior art. Contrary to the prior art, the telescopic multistage structure now recited in the present claims does not require a long column. Further, expansion and contraction of the telescopic multistage structure does not produce a big overhang in the horizontal direction. The present invention enables the transfer robot to reach and access an inspection section in a carrier without causing interference with other elements in the small indexer. No additional vacant space is required in the lower part of the indexer to accommodate a long column which moves up and down.

None of the prior art of record, nor or any combination thereof, discloses a transfer robot including a telescopic multistage structure in an indexer.

Thus, in the apparatus for processing a substrate recited in claims 29, 30 and 31, the inspection section includes an inspection unit on an upper corner of the indexer. If the inspection unit is provided on the center portion of the indexer, movement flexibility of the transfer robot in the indexer is extremely limited. Further, in Ogata's apparatus the inspection unit which is provided at a relatively low position, cannot be accommodated into an indexer and thus has to be projected outside of the indexer.

On the contrary, in the present invention, the inspection unit is provided on an upper corner of an upper structure of the indexer. Therefore, the inspection unit can be provided in the indexer and movement flexibility of the transfer robot is not severely curtailed.

For all of the foregoing reasons, it is respectfully submitted that the independent claims in the application are clearly distinguishable over the prior art of record and the remaining claims which include all their limitations, as well as additional limitations, are clearly patentable as well.

An Information Disclosure Statement is enclosed herewith.

Accordingly, the Examiner is respectfully requested to reconsider the application, allow the newly presented claims and pass this case to issue.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on January 15, 2004

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